

**REMARKS**

This Response is submitted in reply to the Official Action of September 26, 2007 and, accompanying this Response is a petition for a three month extension of term in which to respond to this Official Action.

The drawings are amended, per the attached, to overcome a noted informality contained therein. The accompanying new Replacement Sheet of formal drawing incorporates the requested drawing amendment(s). If any further amendment to the drawing is believed necessary, the Examiner is invited to contact the undersigned representative of the Applicant to discuss the same.

The above amended section of the specification provide consistency with the entered drawing amendment. The undersigned avers that the entered drawing amendment and the amended sections of the specification do not contain any new subject matter.

Claims 6 - 10 were pending in this Application and those claims were rejected, under 35 U.S.C. 112, with particular reference to indefiniteness in claims 6 and 10 and an informality in claim 7. In response, claims 6 and 7 are suitably amended to address and overcome the stated grounds for rejection while claims 9 and 10 are canceled to expedite prosecution and allowance of the present Application by reducing the number and type of outstanding issues to be addressed. It will be understood that the cancellation of claims 9 and 10 is to be taken without prejudice to or abandonment of the subject matter therein. In addition, new claims 11-20 are entered in this case and those claims essentially correspond to the recently allowed claims in the corresponding EPO patent application as well as claiming other features of the present invention. It will also be noted that new claims 11-20 and the amendments to claims 6 and 7, and thereby to claim 8, are fully supported by the specification, the drawings and the claims, as originally filed and thereby do not add any new subject matter to the invention, the specification or the claims. The Applicant thereby respectfully requests that the Examiner reconsider and withdraw all rejections of the claims under 35 U.S.C. 112.

Claims 6, 9 and 10 are rejected, under 35 U.S.C. 102, over Galicher '827 and, are separately rejected, under 35 U.S.C. 102, over Eckert '019, while claims 7 and 8 are rejected, under 35 U.S.C. 103, over Galicher '827 in further view of Carnagua '944. The Applicant respectfully disagrees and traverses each one of the raised rejections of the claims the above amendments and the following comments.

First considering the present invention as recited in claim 6 and new independent

claims 14 and 20, it will be noted that claim 6 is amended to more clearly and explicitly recite and point out the elements and aspects by which the present invention is partentably distinguished over the cited prior art while claims 14 and 20 recites similar limitations. Again, it is respectfully submitted that these amendments to the claims are fully supported by the specification, the drawings and the claims as originally filed and thereby do not add any new subject matter to the invention, the specification, the claims or the drawings.

As recited in amended claim 6 and new claims 14 and 20, the present invention is directed to a machine tool planetary transmission that includes a drive shaft 1 connected to a sun gear 2, an output shaft 3 connected to a planetary carrier 10, an internal gear 4, a hub 6 concentrically surrounding the drive shaft 1, and a sliding collar 5 that concentrically surrounds the hub 6 and is axially movable with respect to both the internal gear 4 and the hub 6.

As recited in claim 6 and new claims 14 and 20, the present invention further includes a sliding collar 5 having first and second operating positions. As recited therein, when the sliding collar 5 is in the first operating position, the sliding collar 5 connects the internal gear 4 to the housing 12 and when the sliding collar 5 is in the second operating position, the sliding collar 5 connects the internal gear 4 to the hub 6.

As also recited in each of the independent claims, the sliding collar 5 further includes an integral centering bore 7 that is located at an end of the sliding collar 5 remote from the internal gear 4 and concentric with the hub 6. The hub 6 also includes a centering collar 8 that is concentric with an axis of the hub 6 and that is located along the axis of the hub 6 so that the centering bore 7 concentrically surrounds and engages with the centering collar 8 when the sliding collar 5 engages the hub 6 in the second operating position.

The centering bore 7 and centering collar 8 thereby center the sliding collar 5 with respect to the hub 6 as the sliding collar 5 is moved to the second operating position, which correspondingly centers the hub 6 with the internal gear 4 to reduce vibration in the transmission. Mating locking arrangements of the sliding collar and the hub 6 provide a positive engagement between those two components which positively transmits drive.

Claims 7 and 8 depend from claim 6 and thereby incorporate all recitations and limitations of claim 6 while reciting further aspects and limitations of the centering bore 7 and centering collar 8. New claims 11-13 also depend from claim 6 and thereby incorporate all recitations and limitations of claim 6 while reciting further aspects and limitations of the sliding collar 5, the hub 6, the centering bore 7 and the centering collar 8. New claims 15-

19 depend from claim 14 and thereby incorporate all recitations and limitations of claim 14 while reciting further aspects and limitations of the sliding collar 5, the hub 6, the centering bore 7 and the centering collar 8.

Turning now to the Galicher `827 and Carnagua `944 references, the present invention is fundamentally and patentably distinguished over both Galicher `827 and Carnagua `944 for the same reasons.

For example, both Galicher `827 and Carnagua `944 are directed to *transmissions for motor vehicles* while the present invention, as recited in the pending claims, is directed specifically to a *machine tool transmission*, which is a completely and fundamentally type of transmission from the transmissions taught by Galicher `827 and Carnagua `944, which are exclusively motor vehicle transmission.

While the Applicant recognizes that field of use distinctions are typically, and often very wrongly, disregarded as patentably non-distinguishing, such field of use distinctions, as in the present instance, result in actual functions and structural distinctions that are properly recognized as patentable distinctions. For example, motor vehicle transmissions require the use of synchronizing mechanisms because the transmission elements are shifted while the transmission operates, that is, while the component parts of the transmissions are rotating and transferring power. In fundamental contrast from a motor vehicle transmission, a machine tool transmission is only shifted when the transmission is non-rotating and is not transferring torque through the transmission, so that machine tool transmission such as the transmission of the present invention do not require or include any synchronizing devices or elements.

In further fundamental distinction between machine tool transmissions and motor vehicle transmissions, machine tool transmissions are required to achieve the minimum possible vibration when transferring torque through the transmission. This is obviously a much less significant consideration in motor vehicle transmissions compared to the need to allow the transmission components to shift while in motion. In fact, it is well known that the synchronization elements of motor vehicle transmissions, which are absolutely essential to the basic purpose and functioning of a motor vehicle transmission, are major sources of vibration in the transmissions, particular as the synchronization element become unbalanced due to prolonged wear from operation of the planetary transmission.

The machine tool transmission of the present invention is thereby fundamentally distinguished over and from the motor vehicle transmissions taught by Galicher `827 and

Carnagua '944 because the machine tool transmission of the present invention does not shift while in motion and thereby does not include synchronization elements, which are required by both the Galicher '827 and the Carnagua '944 transmissions and are a primary part of the teachings of Galicher '827 and Carnagua '944. In addition, neither Galicher '827 nor Carnagua '944 in any way teach, suggest, disclose or hint at the precise and constant cylindrical centering of the presently claimed invention. The high precision cylindrical centering of the sliding sleeve on the hub of the planetary gear for a machine tool is important and decisive for production of a high precision work piece. It is respectfully submitted that the applied prior art of Galicher '827 and Carnagua '944 do not in any way teach, suggest, disclose or hint at the presently claimed invention.

In still further fundamental distinction between the machine tool transmission of the present invention and the motor vehicle transmissions of Galicher '827 and Carnagua '944, the Galicher '827 and Carnagua '944 transmissions do not provide any form of structural mechanism intended specifically to provide minimum vibration when the hub is engaged with the internal gear. For this reason, and in fundamental distinction from the present invention, Galicher '827 and Carnagua '944 do not include or suggest any form of mechanism for centering the hub and the internal gear about a common axis to reduce transmission vibration. That is, neither Galicher '827 nor Carnagua '944 in any way teach, suggest, disclose or hint at a sliding collar 5 that includes an integral centering bore 7, concentric with a hub 6, and the hub 6 includes a centering collar 8 that is concentric with an axis of the hub 6 so that the centering bore 7 concentrically surrounds and engages with the centering collar 8 when the sliding collar 5 engages the hub 6, as the sliding collar 5 is moved to the second operational position to couple the internal gear 4 with the hub 6 and transfer torque through the transmission.

Further, neither Galicher '827 nor Carnagua '944 in any way teach, suggest, disclose or hint at a largest diameter portion of the hub 6 includes the centering collar 8 and an external tooth arrangement located adjacent the centering collar 8 and the sliding collar 5 which engages, upon movement of the sliding collar 5 to the second position, both the external tooth arrangement and the centering collar 8, or a diameter of the centering bore 7 is larger than a largest diameter portion of the hub 6 so that the sliding sleeve 5 completely surrounds the largest diameter portion of the hub 6, as recited in new claims 12, 13 and 18-20.

With respect to the rejection of claims 6, 9 and 10, under 35 U.S.C. 102, over Eckert

`019, while this reference is applicable to a planetary transmission for a machine tool, the Applicant respectfully submits that Eckert `019 fails to in any way teach, suggest, disclose or hint at a sliding collar 5 that includes an integral centering bore 7 and a hub 6 which includes a centering collar 8 that is concentric with an axis of the hub 6 so that the centering bore 7 concentrically surrounds and engages with the centering collar 8 when the sliding collar 5 engages the hub 6, as the sliding collar 5 is moved to the second operational position to couple the internal gear 4 with the hub 6 and transfer torque through the transmission. Eckert `019 merely disclose a detent 7, on the coupling component 8, which limits the axial sliding movement of the slide 19 (see column 3, lines 24-6). The above noted features of new claims 12, 13 and 18-20 further distinguish the presently claimed invention from the applied art of Eckert `019. If necessary, the Applicant will consider filing a Terminal Disclaimer to overcome Eckert `019.

In view of the above, it is respectfully submitted that Eckert `019 fails to in any way anticipate the presently claimed invention and the raised 102(e) rejection in view of Eckert `019 should be withdrawn at this time.

It is therefore the Applicant's belief and position that for the reasons discussed above all of the presently pending claims are fully and patentably distinguished over and from the teachings and suggestions of Eckert `019, Galicher `827 and/or Carnagua `944, whether taken individually or in any combination, under the requirements and provisions of either 35 U.S.C. 102 and/or 35 U.S.C. 103. The Applicant therefore respectfully requests that the Examiner reconsider and withdraw all rejections of the pending claims and allow claims 6-20 as presented herein above.

If any further amendment to this application is believed necessary to advance prosecution and place this case in allowable form, the Examiner is courteously solicited to contact the undersigned representative of the Applicant to discuss the same.

In view of the above amendments and remarks, it is respectfully submitted that all of the raised rejection(s) should be withdrawn at this time. If the Examiner disagrees with the Applicant's view concerning the withdrawal of the outstanding rejection(s) or applicability of the Galicher `827, Eckert `019 and/or Carnagua `944 references, the Applicant respectfully requests the Examiner to indicate the specific passage or passages, or the drawing or drawings, which contain the necessary teaching, suggestion and/or disclosure required by case law. As such teaching, suggestion and/or disclosure is not present in the applied references, the raised rejection should be withdrawn at this time. Alternatively, if the

10/576,443

Examiner is relying on his/her expertise in this field, the Applicant respectfully requests the Examiner to enter an affidavit substantiating the Examiner's position so that suitable contradictory evidence can be entered in this case by the Applicant.

In view of the foregoing, it is respectfully submitted that the raised rejection(s) should be withdrawn and this application is now placed in a condition for allowance. Action to that end, in the form of an early Notice of Allowance, is courteously solicited by the Applicant at this time.

**Upon receipt of this response, the Examiner is respectfully requested to contact the undersigned representative of the Applicant to arrange a telephone interview concerning the inventive merits of this application.**

The Applicant respectfully requests that any outstanding objection(s) or requirement(s), as to the form of this application, be held in abeyance until allowable subject matter is indicated for this case.

In the event that there are any fee deficiencies or additional fees are payable, please charge the same or credit any overpayment to our Deposit Account (Account No. 04-0213).

Respectfully submitted,



Michael J. Bujold, Reg. No. 32,018

**Customer No. 020210**

Davis Bujold & Daniels, P.L.L.C.

112 Pleasant Street

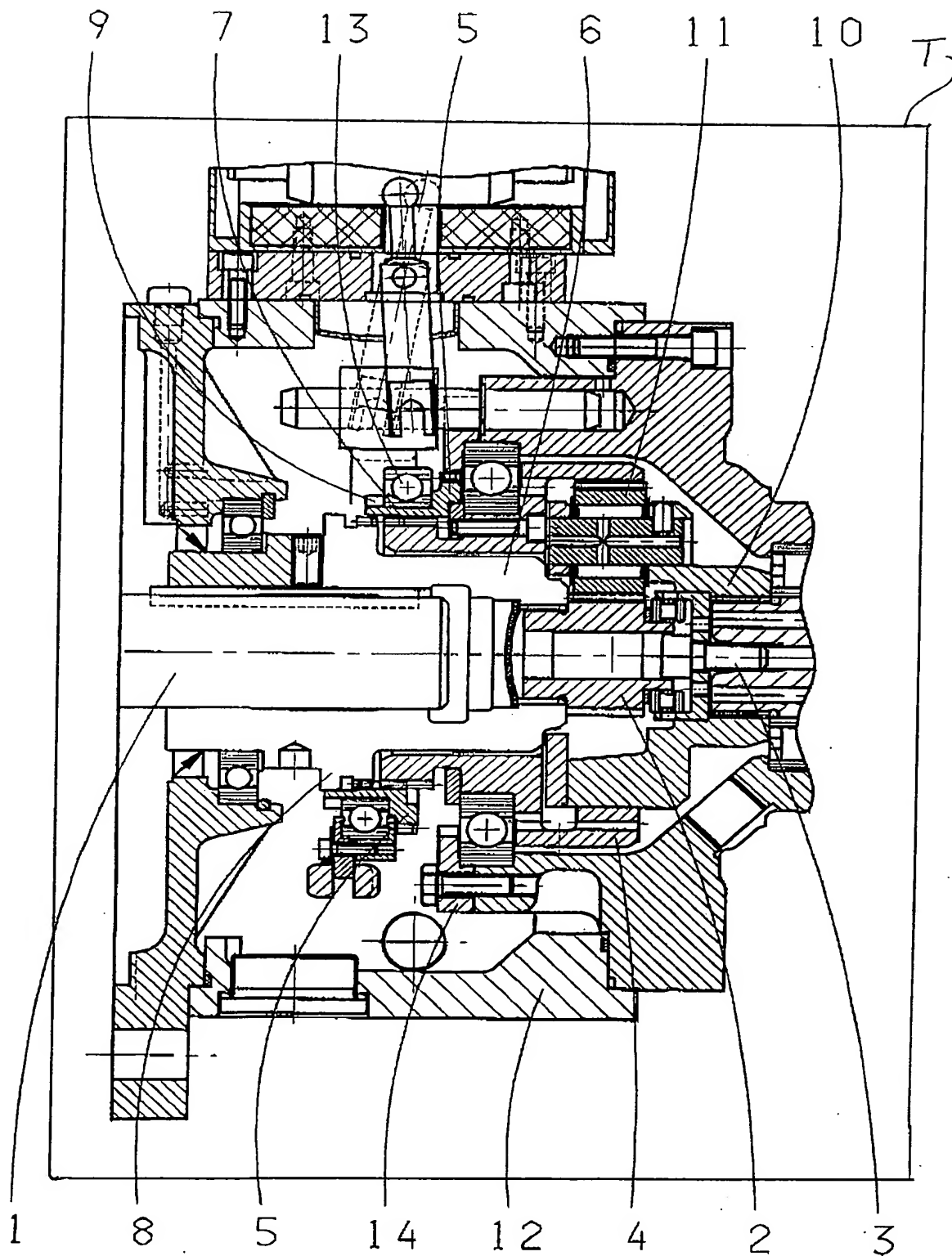
Concord, NH 03301-2931

Telephone 603-226-7490

Facsimile 603-226-7499

E-mail: [patent@davisandbujold.com](mailto:patent@davisandbujold.com)

1 / 1



~~Fig. 1~~